Organization Applicant

        Street :
        City :
        State :
        Country :
        PostalCode :
        PhoneNumber :
        FaxNumber :
        EmailAddress :
<110> OrganizationName : Max-Planck-Gesellschaft

Application Project

<120> Title : Novel genetically encoded bioindicators of calcium-ions
<130> AppFileReference : G62276PC
<140> CurrentAppNumber :
<141> CurrentFilingDate : ____-__-__

Earlier Applications

<150> PriorAppNumber : EP 03016691.2
<151> PriorFilingDate : 2003-08-04

Sequence

<213> OrganismName : Artificial Sequence
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ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc   540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac   600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc   660

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taa                                                                  1863
<212> Type : DNA
<211> Length : 1863
      SequenceName : TN-L15
      SequenceDescription :

Custom Codon
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Sequence Name : TN-L15

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VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA    180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LSEEMIAEFK    240

AAFDMFDADG GGDISTKELG TVMRMLGQNP TKEELDAIIE EVDEDGSGTI DFEEFLVMMV    300

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NGIKANFKIR HNIEDGSVQL ADHYQQNTPI GDGPVLLPDN HYLSYQSALS KDPNEKRDHM    600

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<211> Length : 620
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      SequenceDescription :

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<213> OrganismName : Artificial Sequence
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gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac    600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc    660

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aagggcatcg acttcaagga ggacggcaac atcctggggc acaagctgga gtacaactac   1620

aacagccaca cgtctatat catggccgac aagcagaaga acggcatcaa ggccaacttc   1680

aagatccgcc acaacatcga ggacggcagc gtgcagctcg ccgaccacta ccagcagaac   1740

acccccatcg gcgacggccc cgtgctgctg cccgacaacc actacctgag ctaccagtcc   1800

gccctgagca agacccccaa cgagaagcgc gatcacatgg tcctgctgga gttcgtgacc   1860

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<212> Type : DNA
<211> Length : 1902
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      SequenceDescription :

Custom Codon

Sequence Name : TN-humTC

Sequence

<213> OrganismName : Artificial Sequence
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VNRIELKGID	FKEDGNILGH	KLEYNYISHN	VYITADKQKN	GIKAHFKIRH	NIEDGSVQLA	180
DHYQQNTPIG	DGPVLLPDNH	YLSTQSALSK	DPNEKRDHMV	LLEFVTAARM	LMDDIYKAAV	240
EQLTEEQKNE	FKAAFDIFVL	GAEDGCISTK	ELGKVMRMLG	QNPTPEELQE	MIDEVDEDGS	300
GTVDFDEFLV	MMVRCMKDDS	KGKSEEELSD	LFRMFDKNAD	GYIDLDELKI	MLQATGETIT	360
EDDIEELMKD	GDKNNDGRID	YDEFLEFMKG	VEELMVSKGE	ELFTGVVPIL	VELDGDVNGH	420
KFSVSGEGEG	DATYGKLTLK	FICTTGKLPV	PWPTLVTTFG	YGLMCFARYP	DHMRQHDFFK	480
SAMPEGYVQE	RTIFFKDDGN	YKTRAEVKFE	GDTLVNRIEL	KGIDFKEDGN	ILGHKLEYNY	540
NSHNVYIMAD	KQKNGIKANF	KIRHNIEDGS	VQLADHYQQN	TPIGDGPVLL	PDNHYLSYQS	600
ALSKDPNEKR	DHMVLLEFVT	AAGITLGMDE	LYK			633

<212> Type : PRT
<211> Length : 633
      SequenceName : TN-humTCprot
      SequenceDescription :

Sequence

<213> OrganismName : Artificial Sequence
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ggcaagctga	ccctgaagtt	catctgcacc	accggcaagc	tgcccgtgcc	ctggcccacc	180
ctcgtgacca	ccctgacctg	gggcgtgcag	tgcttcagcc	gctaccccga	ccacatgaag	240
cagcacgact	tcttcaagtc	cgccatgccc	gaaggctacg	tccaggagcg	taccatcttc	300
ttcaaggacg	acggcaacta	caagacccgc	gccgaggtga	agttcgaggg	cgacaccctg	360
gtgaaccgca	tcgagctgaa	gggcatcgac	ttcaaggagg	acggcaacat	cctggggcac	420
aagctggagt	acaactacat	cagccacaac	gtctatatca	ccgccgacaa	gcagaagaac	480
ggcatcaagg	cccacttcaa	gatccgccac	aacatcgagg	acggcagcgt	gcagctcgcc	540
gaccactacc	agcagaacac	ccccatcggc	gacggccccg	tgctgctgcc	cgacaaccac	600
tacctgagca	cccagtccgc	cctgagcaaa	gaccccaacg	agaagcgcga	tcacatggtc	660
ctgctggagt	tcgtgaccgc	cgcccgcatg	ctcagcgagg	agatgattgc	tgagttcaaa	720
gctgcctttg	acatgtttga	tgcggacggt	ggtggggaca	tcagcaccaa	ggagttgggc	780
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gaggtggacg	aggatggcag	cggcaccatc	gacttcgagg	agttcctggt	gatgatggtg	900
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taa                                                                  1863
<212> Type : DNA
<211> Length : 1863
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        SequenceDescription :

Custom Codon
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Sequence Name : TN-L15 D107A

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<213> OrganismName : Artificial Sequence
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VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA     180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LSEEMIAEFK     240

AAFDMFDADG GGDISTKELG TVMRMLGQNP TKEELDAIIE EVDEDGSGTI DFEEFLVMMV     300

RQMKEDAKGK SEEELANCFR IFAKNADGFI DIEELGEILR ATGEHVIEED IEDLMKDSDK     360

NNDGRIDFDE FLKMMEGVQE LMVSKGEELF TGVVPILVEL DGDVNGHKFS VSGEGEGDAT     420

YGKLTLKFIC TTGKLPVPWP TLVTTFGYGL MCFARYPDHM RQHDFFKSAM PEGYVQERTI     480

FFKDDGNYKT RAEVKFEGDT LVNRIELKGI DFKEDGNILG HKLEYNYNSH NVYIMADKQK     540

NGIKANFKIR HNIEDGSVQL ADHYQQNTPI GDGPVLLPDN HYLSYQSALS KDPNEKRDHM     600

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<211> Length : 620
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SequenceDescription :

Sequence

<213> OrganismName : Artificial Sequence
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cagaacaccc ccatcggcga cggccccgtg ctgctgcccg acaaccacta cctgagctac   1800

cagtccgccc tgagcaaaga ccccaacgag aagcgcgatc acatggtcct gctggagttc   1860

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<211> Length : 1908
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        SequenceDescription :

Custom Codon
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Sequence Name : TN-TnCfl

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VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA      180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LMASMTDQQA      240

EARAFLSEEM IAEFKAAFDM FDADGGGDIS TKELGTVMRM LGQNPTKEEL DAIIEEVDED      300

GSGTIDFEEF LVMMVRQMKE DAKGKSEEEL ANCFRIFDKN ADGFIDIEEL GEILRATGEH      360

VIEEDIEDLM KDSDKNNDGR IDFDEFLKMM EGVQELMVSK GEELFTGVVP ILVELDGDVN      420

GHKFSVSGEG EGDATYGKLT LKFICTTGKL PVPWPTLVTT FGYGLMCFAR YPDHMRQHDF      480

FKSAMPEGYV QERTIFFKDD GNYKTRAEVK FEGDTLVNRI ELKGIDFKED GNILGHKLEY      540

NYNSHNVYIM ADKQKNGIKA NFKIRHNIED GSVQLADHYQ QNTPIGDGPV LLPDNHYLSY      600

QSALSKDPNE KRDHMVLLEF VTAAGITLGM DELYK                                635
<212> Type : PRT
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        SequenceDescription :

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ttcaaggacg acggcaacta caagacccgc gccgaggtga agttcgaggg cgacaccctg      360

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aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac      480

ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc      540

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tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc      660

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aagggcatcg acttcaagga ggacggcaac atcctggggc acaagctgga gtacaactac     1260

aacagccaca cgtctatat catggccgac aagcagaaga acggcatcaa ggccaacttc     1320

aagatccgcc acaacatcga ggacggcagc gtgcagctcg ccgaccacta ccagcagaac     1380

acccccatcg gcgacggccc cgtgctgctg cccgacaacc actacctgag ctaccagtcc     1440

gccctgagca agaccccaa cgagaagcgc gatcacatgg tcctgctgga gttcgtgacc     1500

gccgccggga tcactctcgg catggacgag ctgtacaagt aa                       1542
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<211> Length : 1542
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     SequenceDescription :
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Custom Codon

Sequence Name : TN-TnC-EF2

Sequence

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<213> OrganismName : Artificial Sequence
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LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL     120

VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA     180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LGQNPTKEEL     240

DAIIEEVDED GSGTIDFEEF LVMMVRQMKE DAELMVSKGE ELFTGVVPIL VELDGDVNGH     300

KFSVSGEGEG DATYGKLTLK FICTTGKLPV PWPTLVTTFG YGLMCFARYP DHMRQHDFFK     360

SAMPEGYVQE RTIFFKDDGN YKTRAEVKFE GDTLVNRIEL KGIDFKEDGN ILGHKLEYNY     420

NSHNVYIMAD KQKNGIKANF KIRHNIEDGS VQLADHYQQN TPIGDGPVLL PDNHYLSYQS     480

ALSKDPNEKR DHMVLLEFVT AAGITLGMDE LYK                                  513
<212> Type : PRT
<211> Length : 513
     SequenceName : TN-TnC-EF2prot
     SequenceDescription :
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Sequence

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<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac      60
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ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgagggcga tgccacctac      120

ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc      180

ctcgtgacca ccctgacctg gggcgtgcag tgcttcagcc gctaccccga ccacatgaag      240

cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc      300

ttcaaggacg acggcaacta caagacccgc gccgaggtga agttcgaggg cgacaccctg      360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac      420

aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac      480

ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc      540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac      600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc      660

ctgctggagt tcgtgaccgc cgcccgcatg ctaatggcgt caatgacgga ccagcaggcg      720

gaggcccgcg ccttcctcag cgaggagatg attgctgagt tcaaagctgc ctttgacatg      780

tttgatgcgg acggtggtgg ggacatcagc accaaggagt tgggcacggt gatgaggatg      840

ctgggccaga accccaccaa agaggagctg gatgccatca tcgaggaggt ggacgaggat      900

ggcagcggca ccatcgactt cgaggagttc ctggtgatga tggtgcgcca gatgaaagag      960

gacgccaagg gcaagtctga ggaggagctg gccaactgct tccgcatctt cgacaagaac     1020

gctgatgggt tcatcgacat cgaggagctg ggtgagattc tcagggccac tggggagcac     1080

gtcatcgagg aggacataga agacctcatg aaggattcag acaagaacaa tgacggccgc     1140

attgacttcg atgagttcct gaagatgatg gagggtgtgc aggagctcgg cggcatgtct     1200

gatgaagaga aaaagcgtcg tgcagccacc gcccgtcgtc agcacctgaa gagtgctatg     1260

ctccagcttg ctgtcactga aatagaaaaa gaagcagctg ctaaagaagt ggaaaagcaa     1320

aactacctgg cagagcatag ccctcctctg tccctcccag ggtccatgca ggaacttcag     1380

gaactgagca aaaaacttca tgccaagata gactcagtgg atgaggaaag gtatgacaca     1440

gaggtgaagc tacagaagac taacaaggag ctggaggacc tgagccagaa gctgtttgac     1500

ctgaggggca agttcaagag gccacctctg cgccgggtgc gcatgtctgc tgatgccatg     1560

ctgcgtgccc tgctgggctc caagcacaag gtcaacatgg acctccgggc caacctgaag     1620

caagtcaaga aggaggacac ggagaaggag aaggacctcc gcgatgtggg tgactggagg     1680

aagaacattg aggagaaatc tggcatggag ggcaggaaga agatgtttga ggccggcgag     1740

tccgagctca tggtgagcaa gggcgaggag ctgttcaccg gggtggtgcc catcctggtc     1800

gagctggacg gcgacgtaaa cggccacaag ttcagcgtgt ccggcgaggg cgagggcgat     1860

gccacctacg gcaagctgac cctgaagttc atctgcacca ccggcaagct gcccgtgccc     1920

tggcccaccc tcgtgaccac cttcggctac ggcctgatgt gcttcgcccg ctaccccgac     1980

cacatgcgcc agcacgactt cttcaagtcc gccatgcccg aaggctacgt ccaggagcgc     2040

accatcttct tcaaggacga cggcaactac aagacccgcg ccgaggtgaa gttcgagggc     2100
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gacaccctgg tgaaccgcat cgagctgaag ggcatcgact tcaaggagga cggcaacatc    2160

ctggggcaca agctggagta caactacaac agccacaacg tctatatcat ggccgacaag    2220

cagaagaacg gcatcaaggc caacttcaag atccgccaca acatcgagga cggcagcgtg    2280

cagctcgccg accactacca gcagaacacc cccatcggcg acggccccgt gctgctgccc    2340

gacaaccact acctgagcta ccagtccgcc ctgagcaaag accccaacga gaagcgcgat    2400

cacatggtcc tgctggagtt cgtgaccgcc gccgggatca ctctcggcat ggacgagctg    2460

tacaagtaa                                                           2469
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<212> Type : DNA
<211> Length : 2469
     SequenceName : TN-TnCf1-GG-TnIf1
     SequenceDescription :

Custom Codon

Sequence Name : TN-TnCf1-GG-TnIf1

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

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MVSKGEELFT GVVPILVELD GDVNGHRFSV SGEGEGDATY GKLTLKFICT TGKLPVPWPT    60

LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL    120

VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA    180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LMASMTDQQA    240

EARAFLSEEM IAEFKAAFDM FDADGGGDIS TKELGTVMRM LGQNPTKEEL DAIIEEVDED    300

GSGTIDFEEF LVMMVRQMKE DAKGKSEEEL ANCFRIFDKN ADGFIDIEEL GEILRATGEH    360

VIEEDIEDLM KDSDKNNDGR IDFDEFLKMM EGVQELGGMS DEEKKRRAAT ARRQHLKSAM    420

LQLAVTEIEK EAAAKEVEKQ NYLAEHSPPL SLPGSMQELQ ELSKKLHAKI DSVDEERYDT    480

EVKLQKTNKE LEDLSQKLFD LRGKFKRPPL RRVRMSADAM LRALLGSKHK VNMDLRANLK    540

QVKKEDTEKE KDLRDVGDWR KNIEEKSGME GRKKMFEAGE SELMVSKGEE LFTGVVPILV    600

ELDGDVNGHK FSVSGEGEGD ATYGKLTLKF ICTTGKLPVP WPTLVTTFGY GLMCFARYPD    660

HMRQHDFFKS AMPEGYVQER TIFFKDDGNY KTRAEVKFEG DTLVNRIELK GIDFKEDGNI    720

LGHKLEYNYN SHNVYIMADK QKNGIKANFK IRHNIEDGSV QLADHYQQNT PIGDGPVLLP    780

DNHYLSYQSA LSKDPNEKRD HMVLLEFVTA AGITLGMDEL YK                        822
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<212> Type : PRT
<211> Length : 822
     SequenceName : TN-TnCf1-GGTnIf1 prot
     SequenceDescription :

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

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atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac    60

ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgagggcga tgccacctac    120

ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc    180
```

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ctcgtgacca ccctgacctg gggcgtgcag tgcttcagcc gctaccccga ccacatgaag    240

cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc    300

ttcaaggacg acggcaacta caagacccgc gccgaggtga agttcgaggg cgacaccctg    360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctgggggcac    420

aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac    480

ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc    540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac    600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc    660

ctgctggagt tcgtgaccgc cgcccgcatg ctcgctgatg ccatgctgcg tgccctgctg    720

ggctccaagc acaaggtcaa cggcggcgcg tcaatgacgg accagcaggc ggaggcccgc    780

gccttcctca gcgaggagat gattgctgag ttcaaagctg cctttgacat gtttgatgcg    840

gacggtggtg gggacatcag caccaaggag ttgggcacgg tgatgaggat gctgggccag    900

aaccccacca agaggagct ggatgccatc atcgaggagg tggacgagga tggcagcggc    960

accatcgact tcgaggagtt cctggtgatg atggtgcgcc agatgaaaga ggacgccaag   1020

ggcaagtctg aggaggagct ggccaactgc ttccgcatct tcgacaagaa cgctgatggg   1080

ttcatcgaca tcgaggagct gggtgagatt ctcagggcca ctggggagca cgtcatcgag   1140

gaggacatag aagacctcat gaaggattca gacaagaaca tgacggccg cattgacttc   1200

gatgagttcc tgaagatgat ggaggtgtg caggagctca tggtgagcaa gggcgaggag   1260

ctgttcaccg gggtggtgcc catcctggtc gagctggacg gcgacgtaaa cggccacaag   1320

ttcagcgtgt ccggcgaggg cgagggcgat gccacctacg gcaagctgac cctgaagttc   1380

atctgcacca ccggcaagct gcccgtgccc tggcccaccc tcgtgaccac cttcggctac   1440

ggcctgatgt gcttcgcccg ctaccccgac cacatgcgcc agcacgactt cttcaagtcc   1500

gccatgcccg aaggctacgt ccaggagcgc accatcttct tcaaggacga cggcaactac   1560

aagacccgcg ccgaggtgaa gttcgagggc gacaccctgg tgaaccgcat cgagctgaag   1620

ggcatcgact tcaaggagga cggcaacatc ctggggcaca gctggagta caactacaac   1680

agccacaacg tctatatcat ggccgacaag cagaagaacg gcatcaaggc caacttcaag   1740

atccgccaca acatcgagga cggcagcgtg cagctcgccg accactacca gcagaacacc   1800

cccatcggcg acggccccgt gctgctgccc gacaaccact acctgagcta ccagtccgcc   1860

ctgagcaaag accccaacga gaagcgcgat cacatggtcc tgctggagtt cgtgaccgcc   1920

gccgggatca ctctcggcat ggacgagctg tacaagtaa                          1959
```

<212> Type : DNA
<211> Length : 1959
    SequenceName : TN-TnI116-135-GG-TnCf1
    SequenceDescription :

Custom Codon

Sequence Name : TN-TnI116-135-GG-TnCf1

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

MVSKGEELFT	GVVPILVELD	GDVNGHRFSV	SGEGEGDATY	GKLTLKFICT	TGKLPVPWPT	60
LVTTLTWGVQ	CFSRYPDHMK	QHDFFKSAMP	EGYVQERTIF	FKDDGNYKTR	AEVKFEGDTL	120
VNRIELKGID	FKEDGNILGH	KLEYNYISHN	VYITADKQKN	GIKAHFKIRH	NIEDGSVQLA	180
DHYQQNTPIG	DGPVLLPDNH	YLSTQSALSK	DPNEKRDHMV	LLEFVTAARM	LADAMLRALL	240
GSKHKVNGGA	SMTDQQAEAR	AFLSEEMIAE	FKAAFDMFDA	DGGGDISTKE	LGTVMRMLGQ	300
NPTKEELDAI	IEEVDEDGSG	TIDFEEFLVM	MVRQMKEDAK	GKSEEELANC	FRIFDKNADG	360
FIDIEELGEI	LRATGEHVIE	EDIEDLMKDS	DKNNDGRIDF	DEFLKMMEGV	QELMVSKGEE	420
LFTGVVPILV	ELDGDVNGHK	FSVSGEGEGD	ATYGKLTLKF	ICTTGKLPVP	WPTLVTTFGY	480
GLMCFARYPD	HMRQHDFFKS	AMPEGYVQER	TIFFKDDGNY	KTRAEVKFEG	DTLVNRIELK	540
GIDFKEDGNI	LGHKLEYNYN	SHNVYIMADK	QKNGIKANFK	IRHNIEDGSV	QLADHYQQNT	600
PIGDGPVLLP	DNHYLSYQSA	LSKDPNEKRD	HMVLLEFVTA	AGITLGMDEL	YK	652

<212> Type : PRT
<211> Length : 652
      SequenceName : TN-TnI116-135-GG-TnCfl prot
      SequenceDescription :

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

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ggcgacgtaa	acggccacag	gttcagcgtg	tccggcgagg	gcgagggcga	tgccacctac	120
ggcaagctga	ccctgaagtt	catctgcacc	accggcaagc	tgcccgtgcc	ctggcccacc	180
ctcgtgacca	ccctgacctg	gggcgtgcag	tgcttcagcc	gctaccccga	ccacatgaag	240
cagcacgact	tcttcaagtc	cgccatgccc	gaaggctacg	tccaggagcg	taccatcttc	300
ttcaaggacg	acggcaacta	caagacccgc	gccgaggtga	agttcgaggg	cgacaccctg	360
gtgaaccgca	tcgagctgaa	gggcatcgac	ttcaaggagg	acggcaacat	cctggggcac	420
aagctggagt	acaactacat	cagccacaac	gtctatatca	ccgccgacaa	gcagaagaac	480
ggcatcaagg	cccacttcaa	gatccgccac	aacatcgagg	acggcagcgt	gcagctcgcc	540
gaccactacc	agcagaacac	ccccatcggc	gacggccccg	tgctgctgcc	cgacaaccac	600
tacctgagca	cccagtccgc	cctgagcaaa	gaccccaacg	agaagcgcga	tcacatggtc	660
ctgctggagt	tcgtgaccgc	cgcccgcatg	ctagacctga	gccagaagct	gtttgacctg	720
aggggcaagt	tcaagaggcc	acctctgcgc	cgggtgcgca	tgtctgctga	tgccatgctg	780
cgtgccctgc	tgggctccaa	gcacaaggtc	ggcagcggca	gcatgctaat	ggcgtcaatg	840
acggaccagc	aggcggaggc	ccgcgccttc	ctcagcgagg	agatgattgc	tgagttcaaa	900
gctgcctttg	acatgtttga	tgcggacggt	ggtggggaca	tcagcaccaa	ggagttgggc	960

```
acggtgatga ggatgctggg ccagaacccc accaaagagg agctggatgc catcatcgag        1020

gaggtggacg aggatggcag cggcaccatc gacttcgagg agttcctggt gatgatggtg        1080

cgccagatga aagaggacgc cgagctcatg gtgagcaagg gcgaggagct gttcaccggg        1140

gtggtgccca tcctggtcga gctggacggc gacgtaaacg gccacaagtt cagcgtgtcc        1200

ggcgagggcg agggcgatgc cacctacggc aagctgaccc tgaagttcat ctgcaccacc        1260

ggcaagctgc ccgtgccctg gcccaccctc gtgaccacct cggctacgg cctgatgtgc         1320

ttcgcccgct accccgacca catgcgccag cacgacttct tcaagtccgc catgcccgaa        1380

ggctacgtcc aggagcgcac catcttcttc aaggacgacg gcaactacaa gacccgcgcc        1440

gaggtgaagt tcgagggcga caccctggtg aaccgcatcg agctgaaggg catcgacttc        1500

aaggaggacg gcaacatcct ggggcacaag ctggagtaca actacaacag ccacaacgtc        1560

tatatcatgg ccgacaagca gaagaacggc atcaaggcca acttcaagat ccgccacaac        1620

atcgaggacg gcagcgtgca gctcgccgac cactaccagc agaacacccc catcggcgac        1680

ggccccgtgc tgctgcccga caaccactac ctgagctacc agtccgccct gagcaaagac        1740

cccaacgaga gcgcgatca catggtcctg ctggagttcg tgaccgccgc cgggatcact         1800

ctcggcatgg acgagctgta caagtaa                                            1827
<212> Type : DNA
<211> Length : 1827
       SequenceName : TN-TnI95-133-GSG-TnCN90
       SequenceDescription :

Custom Codon
------------
Sequence Name : TN-TnI95-133-GSG-TnCN90

Sequence
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<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
MVSKGEELFT GVVPILVELD GDVNGHRFSV SGEGEGDATY GKLTLKFICT TGKLPVPWPT        60

LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL        120

VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA        180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LDLSQKLFDL        240

RGKFKRPPLR RVRMSADAML RALLGSKHKV GSGSMLMASM TDQQAEARAF LSEEMIAEFK        300

AAFDMFDADG GGDISTKELG TVMRMLGQNP TKEELDAIIE EVDEDGSGTI DFEEFLVMMV        360

RQMKEDAELM VSKGEELFTG VVPILVELDG DVNGHKFSVS GEGEGDATYG KLTLKFICTT        420

GKLPVPWPTL VTTFGYGLMC FARYPDHMRQ HDFFKSAMPE GYVQERTIFF KDDGNYKTRA        480

EVKFEGDTLV NRIELKGIDF KEDGNILGHK LEYNYNSHNV YIMADKQKNG IKANFKIRHN        540

IEDGSVQLAD HYQQNTPIGD GPVLLPDNHY LSYQSALSKD PNEKRDHMVL LEFVTAAGIT        600

LGMDELYK                                                                 608
<212> Type : PRT
<211> Length : 608
       SequenceName : TN-TnI95-133-GSG-TnCN90 prot
       SequenceDescription :
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Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

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atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac      60

ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgagggcga tgccacctac     120

ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc     180

ctcgtgacca ccctgacctg gggcgtgcag tgcttcagcc gctaccccga ccacatgaag     240

cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc     300

ttcaaggacg acggcaacta caagacccgc gccgaggtga agttcgaggg cgacaccctg     360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac     420

aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac     480

ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc     540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac     600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc     660

ctgctggagt cgtgaccgc cgcccgcatg ctgctgacag aagagcagaa aaatgagttc     720

aaggcagcct tcgacatctt cgtgctgggc gctgaggatg gctgcatcag caccaaggag     780

ctgggcaagg tgatgaggat gctgggccag aaccccaccc ctgaggagct gcaggagatg     840

atcgatgagg tggacgagga cggcagcggc acggtggact ttgatgagtt cctggtcatg     900

atggttcggt gcatgaagga cgacagcaaa gggaaatctg aggaggagct gtctgacctc     960

ttccgcatgt ttgacaaaaa tgctgatggc tacatcgacc tggatgagct gaagataatg    1020

ctgcaggcta caggcgagac catcacggag gacgacatcg aggaactcat gaaggacgga    1080

gacaagaaca acgacggccg catcgactat gatgagttcc tggagttcat gaagggtgtg    1140

gaggagctca tggtgagcaa gggcgaggag ctgttcaccg gggtggtgcc catcctggtc    1200

gagctggacg cgacgtaaa cggccacaag ttcagcgtgt ccggcgaggg cgagggcgat    1260

gccacctacg gcaagctgac cctgaagttc atctgcacca ccggcaagct gcccgtgccc    1320

tggcccaccc tcgtgaccac cttcggctac ggcctgatgt gcttcgcccg ctaccccgac    1380

cacatgcgcc agcacgactt cttcaagtcc gccatgcccg aaggctacgt ccaggagcgc    1440

accatcttct tcaaggacga cggcaactac aagacccgcg ccgaggtgaa gttcgagggc    1500

gacaccctgg tgaaccgcat cgagctgaag ggcatcgact tcaaggagga cggcaacatc    1560

ctggggcaca gctggagta caactacaac agccacaacg tctatatcat ggccgacaag    1620

cagaagaacg gcatcaaggc caacttcaag atccgccaca acatcgagga cggcagcgtg    1680

cagctcgccg accactacca gcagaacacc cccatcggcg acggccccgt gctgctgccc    1740

gacaaccact acctgagcta ccagtccgcc ctgagcaaag accccaacga gaagcgcgat    1800

cacatggtcc tgctggagtt cgtgaccgcc gccgggatca ctctcggcat ggacgagctg    1860

tacaagtaa                                                           1869
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<212> Type : DNA

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<211> Length : 1869
      SequenceName : TN-humTC-L12
      SequenceDescription :

Custom Codon

Sequence Name : TN-humTC-L12

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

MVSKGEELFT	GVVPILVELD	GDVNGHRFSV	SGEGEGDATY	GKLTLKFICT	TGKLPVPWPT	60
LVTTLTWGVQ	CFSRYPDHMK	QHDFFKSAMP	EGYVQERTIF	FKDDGNYKTR	AEVKFEGDTL	120
VNRIELKGID	FKEDGNILGH	KLEYNYISHN	VYITADKQKN	GIKAHFKIRH	NIEDGSVQLA	180
DHYQQNTPIG	DGPVLLPDNH	YLSTQSALSK	DPNEKRDHMV	LLEFVTAARM	LLTEEQKNEF	240
KAAFDIFVLG	AEDGCISTKE	LGKVMRMLGQ	NPTPEELQEM	IDEVDEDGSG	TVDFDEFLVM	300
MVRCMKDDSK	GKSEEELSDL	FRMFDKNADG	YIDLDELKIM	LQATGETITE	DDIEELMKDG	360
DKNNDGRIDY	DEFLEFMKGV	EELMVSKGEE	LFTGVVPILV	ELDGDVNGHK	FSVSGEGEGD	420
ATYGKLTLKF	ICTTGKLPVP	WPTLVTTFGY	GLMCFARYPD	HMRQHDFFKS	AMPEGYVQER	480
TIFFKDDGNY	KTRAEVKFEG	DTLVNRIELK	GIDFKEDGNI	LGHKLEYNYN	SHNVYIMADK	540
QKNGIKANFK	IRHNIEDGSV	QLADHYQQNT	PIGDGPVLLP	DNHYLSYQSA	LSKDPNEKRD	600
HMVLLEFVTA	AGITLGMDEL	YK				622

<212> Type : PRT
<211> Length : 622
      SequenceName : TN-humTC-L12 prot
      SequenceDescription :

Sequence

<213> OrganismName : Homo sapiens
<400> PreSequenceString :

atggatgaca	tctacaaggc	tgcggtagag	cagctgacag	aagagcagaa	aaatgagttc	60
aaggcagcct	tcgacatctt	cgtgctgggc	gctgaggatg	gctgcatcag	caccaaggag	120
ctgggcaagg	tgatgaggat	gctgggccag	aacccccaccc	ctgaggagct	gcaggagatg	180
atcgatgagg	tggacgagga	cggcagcggc	acggtggact	ttgatgagtt	cctggtcatg	240
atggttcggt	gcatgaagga	cgacagcaaa	gggaaatctg	aggaggagct	gtctgacctc	300
ttccgcatgt	ttgacaaaaa	tgctgatggc	tacatcgacc	tggatgagct	gaagataatg	360
ctgcaggcta	caggcgagac	catcacggag	gacgacatcg	aggagctcat	gaaggacgga	420
gacaagaaca	cgacggccg	catcgactat	gatgagttcc	tggagttcat	gaagggtgtg	480
gagtag						486

<212> Type : DNA
<211> Length : 486
      SequenceName : cardiac hTnC
      SequenceDescription :

Custom Codon

Sequence Name : cardiac hTnC

Page 15

Sequence

<213> OrganismName : Homo sapiens
<400> PreSequenceString :

```
MDDIYKAAVE QLTEEQKNEF KAAFDIFVLG AEDGCISTKE LGKVMRMLGQ NPTPEELQEM        60

IDEVDEDGSG TVDFDEFLVM MVRCMKDDSK GKSEEELSDL FRMFDKNADG YIDLDELKIM       120

LQATGETITE DDIEELMKDG DKNNDGRIDY DEFLEFMKGV E                           161
```
<212> Type : PRT
<211> Length : 161
      SequenceName : cardiac hTnC prot
      SequenceDescription :

Sequence

<213> OrganismName : Homo sapiens
<400> PreSequenceString :

```
atggcggatg ggagcagcga tgcggctagg gaacctcgcc ctgcaccagc cccaatcaga        60

cgccgctcct ccaactaccg cgcttatgcc acggagccgc acgccaagaa aaaatctaag       120

atctccgcct cgagaaaatt gcagctgaag actctgctgc tgcagattgc aaagcaagag       180

ctggagcgag aggcggagga gcggcgcgga gagaaggggc gcgctctgag cacccgctgc       240

cagccgctgg agttgaccgg gctgggcttc gcggagctgc aggacttgtg ccgacagctc       300

cacgcccgtg tggacaaggt ggatgaagag agatacgaca tagaggcaaa agtcaccaag       360

aacatcacgg agattgcaga tctgactcag aagatctttg accttcgagg caagtttaag       420

cggcccaccc tgcggagagt gaggatctct gcagatgcca tgatgcaggc gctgctgggg       480

gcccgggcta aggagtccct ggacctgcgg gcccacctca agcaggtgaa gaaggaggac       540

accgagaagg aaaaccggga ggtgggagac tggcggaaga acatcgatgc actgagtgga       600

atggagggcc gcaagaaaaa gtttgagagc tga                                   633
```
<212> Type : DNA
<211> Length : 633
      SequenceName : cardiac hTnI
      SequenceDescription :

Custom Codon

Sequence Name : cardiac hTnI

Sequence

<213> OrganismName : Homo sapiens
<400> PreSequenceString :

```
MADGSSDAAR EPRPAPAPIR RRSSNYRAYA TEPHAKKKSK ISASRKLQLK TLLLQIAKQE        60

LEREAEERRG EKGRALSTRC QPLELTGLGF AELQDLCRQL HARVDKVDEE RYDIEAKVTK       120

NITEIADLTQ KIFDLRGKFK RPTLRRVRIS ADAMMQALLG ARAKESLDLR AHLKQVKKED       180

TEKENREVGD WRKNIDALSG MEGRKKKFES                                        210
```
<212> Type : PRT
<211> Length : 210
      SequenceName : cardiac hTnI prot
      SequenceDescription :

Sequence

<213> OrganismName : Homo sapiens
<400> PreSequenceString :

```
atgacggacc agcaggctga ggccaggtcc tacctcagcg aagagatgat cgctgagttc     60

aaggctgcct ttgacatgtt tgatgctgat ggtggtgggg acatcagcgt caaggagttg    120

ggcacggtga tgaggatgct gggccagaca cccaccaagg aggagctgga cgccatcatc    180

gaggaggtgg atgaggacgg cagcggcacc atcgacttcg aggagttctt ggtcatgatg    240

gtgcgccaga tgaaagagga cgcgaaaggg aagagcgagg aggagctggc cgagtgcttc    300

cgcatcttcg acaggaatgc agacggctac atcgacccgg aggagctggc tgagattttc    360

agggcctccg gggagcacgt gactgacgag gagatcgaat ctctgatgaa agacggcgac    420

aagaacaacg acggccgcat tgacttcgac gagttcctga agatgatgga gggcgtgcag    480

taa                                                                   483
<212> Type : DNA
<211> Length : 483
     SequenceName : skeletal hTnC
     SequenceDescription :
```

Custom Codon

Sequence Name : skeletal hTnC

Sequence

```
<213> OrganismName : Homo sapiens
<400> PreSequenceString :
MTDQQAEARS YLSEEMIAEF KAAFDMFDAD GGGDISVKEL GTVMRMLGQT PTKEELDAII     60

EEVDEDGSGT IDFEEFLVMM VRQMKEDAKG KSEEELAECF RIFDRNADGY IDPEELAEIF    120

RASGEHVTDE EIESLMKDGD KNNDGRIDFD EFLKMMEGVQ                          160
<212> Type : PRT
<211> Length : 160
     SequenceName : skeletal hTnC prot
     SequenceDescription :
```

Sequence

```
<213> OrganismName : Gallus gallus
<400> PreSequenceString :
atggcgtcaa tgacggacca gcaggcggag gcccgcgcct tcctcagcga ggagatgatt     60

gctgagttca agctgcctt tgacatgttt gatgcggacg gtggtgggga catcagcacc    120

aaggagttgg gcacggtgat gaggatgctg ggccagaacc ccaccaaaga ggagctggat    180

gccatcatcg aggaggtgga cgaggatggc agcggcacca tcgacttcga ggagttcctg    240

gtgatgatgg tgcgccagat gaaagaggac gccaagggca agtctgagga ggagctggcc    300

aactgcttcc gcatcttcga caagaacgct gatgggttca tcgacatcga ggagctgggt    360

gagattctca gggccactgg ggagcacgtc atcgaggagg acatagaaga cctcatgaag    420

gattcagaca gaacaatga cggccgcatt gacttcgatg agttcctgaa gatgatggag    480

ggtgtgcagt aa                                                        492
<212> Type : DNA
<211> Length : 492
     SequenceName : chicken skeletal TnC
     SequenceDescription :
```

Custom Codon

Sequence Name : chicken skeletal TnC

Sequence

<213> OrganismName : Gallus gallus
<400> PreSequenceString :
MASMTDQQAE ARAFLSEEMI AEFKAAFDMF DADGGGDIST KELGTVMRML GQNPTKEELD   60

AIIEEVDEDG SGTIDFEEFL VMMVRQMKED AKGKSEEELA NCFRIFDKNA DGFIDIEELG   120

EILRATGEHV IEEDIEDLMK DSDKNNDGRI DFDEFLKMME GVQ   163
<212> Type : PRT
<211> Length : 163
      SequenceName : chicken skeletal TnC prot
      SequenceDescription :

Sequence

<213> OrganismName : Gallus gallus
<400> PreSequenceString :
atgtctgatg aagagaaaaa gaggagggca gccaccgccc ggcgccagca cctgaagagt   60

gctatgctcc agcttgctgt cactgaaata gaaaaagaag cagctgctaa agaagtggaa   120

aagcaaaact acctggcaga gcattgccct cctctgtccc tcccaggatc catgcaggaa   180

cttcaggaac tgtgcaaaaa gcttcatgcc aagatagact cagtggatga ggaaaggtat   240

gacacagagg tgaagctaca gaagactaac aaggagctgg aggacctgag ccagaagctg   300

tttgacctga ggggcaagtt caagaggcca cctctgcgcc gggtgcgcat gtctgctgat   360

gccatgctgc gtgccctgct gggctccaag cacaaggtca acatggacct ccgggccaac   420

ctgaagcaag tcaagaagga ggacacggag aaggagaagg acctccgcga tgtgggtgac   480

tggaggaaga acattgagga gaaatctggc atggagggca ggaagaagat gtttgaggcc   540

ggcgagtcct aa   552
<212> Type : DNA
<211> Length : 552
      SequenceName : chicken skeletal TnI
      SequenceDescription :

Custom Codon

Sequence Name : chicken skeletal TnI

Sequence

<213> OrganismName : Gallus gallus
<400> PreSequenceString :
MSDEEKKRRA ATARRQHLKS AMLQLAVTEI EKEAAAKEVE KQNYLAEHCP PLSLPGSMQE   60

LQELCKKLHA KIDSVDEERY DTEVKLQKTN KELEDLSQKL FDLRGKFKRP PLRRVRMSAD   120

AMLRALLGSK HKVNMDLRAN LKQVKKEDTE KEKDLRDVGD WRKNIEEKSG MEGRKKMFEA   180

GES   183
<212> Type : PRT
<211> Length : 183
      SequenceName : chicken skeletal TnI prot
      SequenceDescription :

Sequence

<213> OrganismName : Gallus gallus
<400> PreSequenceString :

```
atggatgaca tctataaggc ggcggttgag cagttgacag aagaacaaaa aaatgagttt          60

aaggctgcct tcgacatctt cgtgctgggg gcagaggatg gctgcatcag caccaaggag         120

ctggggaagg tgatgaggat gctggggcag aaccccaccc ctgaggagct gcaggagatg         180

attgatgagg tggatgagga tggcagtggc actgtggact ttgatgagtt ccttgttatg         240

atggttcggt gtatgaaaga tgacagcaaa ggaaaaactg aagaggagct ctcagatctc         300

ttcaggatgt ttgataagaa tgctgatggc tacatcgatc ttgaggaact gaagatcatg         360

ctacaggcaa ctggagagac gatcactgag gatgacatag aagaactgat gaaagatggg         420

gacaaaaaca atgatggcag gattgactat gacgagttcc tggagttcat gaagggagtt         480

gaataa                                                                   486
<212> Type : DNA
<211> Length : 486
      SequenceName : chicken cardiac TnC
      SequenceDescription :

Custom Codon
------------
Sequence Name : chicken cardiac TnC

Sequence
--------
<213> OrganismName : Gallus gallus
<400> PreSequenceString :
MDDIYKAAVE QLTEEQKNEF KAAFDIFVLG AEDGCISTKE LGKVMRMLGQ NPTPEELQEM          60

IDEVDEDGSG TVDFDEFLVM MVRCMKDDSK GKTEEELSDL FRMFDKNADG YIDLEELKIM         120

LQATGETITE DDIEELMKDG DKNNDGRIDY DEFLEFMKGV E                            161
<212> Type : PRT
<211> Length : 161
      SequenceName : chicken cardiac TnC prot
      SequenceDescription :

Sequence
--------
<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac          60

ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgagggcga tgccacctac         120

ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc         180

ctcgtgacca ccctgaccta gggcgtgcag tgcttcagcc gctaccccga ccacatgaag         240

cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc         300

ttcaaggacg acggcaacta caagacccgc gccgaggtga agttcgaggg cgacaccctg         360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac         420

aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac         480

ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc         540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac         600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc         660

ctgctggagt tcgtgaccgc cgcccgcatg ctgagcgatg aattgactaa ggagcaaact         720
```

gcattactac	gtaatgcatt	taatgctttt	gaccctgaaa	aaaatggata	tatcaacaca	780
gctatggtgg	gtacgatact	tagcatgttg	ggtcatcaac	ttgatgatgc	aactcttgct	840
gacattatcg	ctgaagtcga	tgaggatggt	tcgggccaaa	tcgaatttga	agaatttacc	900
accctggcag	cccgcttcct	tgtggaagag	gacgctgaag	ctatgatggc	tgaattgaag	960
gaagctttcc	gcctttacga	caaagaagga	aatggatata	taactactgg	tgttcttcgt	1020
gaaatcctgc	gcgaactaga	cgataaattg	acaaatgacg	acctggacat	gatgattgag	1080
gaaattgatt	ccgatggatc	gggtactgtt	gattttgatg	aatttatgga	agtaatgacc	1140
ggtggcgacg	acgagctcat	ggtgagcaag	ggcgaggagc	tgttcaccgg	ggtggtgccc	1200
atcctggtcg	agctggacgg	cgacgtaaac	ggccacaagt	tcagcgtgtc	cggcgagggc	1260
gagggcgatg	ccacctacgg	caagctgacc	ctgaagttca	tctgcaccac	cggcaagctg	1320
cccgtgccct	ggcccaccct	cgtgaccacc	ttcggctacg	gcctgatgtg	cttcgcccgc	1380
tacccccgacc	acatgcgcca	gcacgacttc	ttcaagtccg	ccatgcccga	aggctacgtc	1440
caggagcgca	ccatcttctt	caaggacgac	ggcaactaca	agacccgcgc	cgaggtgaag	1500
ttcgagggcg	acaccctggt	gaaccgcatc	gagctgaagg	gcatcgactt	caaggaggac	1560
ggcaacatcc	tggggcacaa	gctggagtac	aactacaaca	gccacaacgt	ctatatcatg	1620
gccgacaagc	agaagaacgg	catcaaggcc	aacttcaaga	tccgccacaa	catcgaggac	1680
ggcagcgtgc	agctcgccga	ccactaccag	cagaacaccc	ccatcggcga	cggccccgtg	1740
ctgctgcccg	acaaccacta	cctgagctac	cagtccgccc	tgagcaaaga	ccccaacgag	1800
aagcgcgatc	acatggtcct	gctggagttc	gtgaccgccg	ccgggatcac	tctcggcatg	1860
gacgagctgt	acaagtaa					1878

```
<212> Type : DNA
<211> Length : 1878
       SequenceName : TN-TPC1
       SequenceDescription :

Custom Codon
------------
Sequence Name : TN-TPC1

Sequence
--------
<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
```

MVSKGEELFT	GVVPILVELD	GDVNGHRFSV	SGEGEGDATY	GKLTLKFICT	TGKLPVPWPT	60
LVTTLTWGVQ	CFSRYPDHMK	QHDFFKSAMP	EGYVQERTIF	FKDDGNYKTR	AEVKFEGDTL	120
VNRIELKGID	FKEDGNILGH	KLEYNYISHN	VYITADKQKN	GIKAHFKIRH	NIEDGSVQLA	180
DHYQQNTPIG	DGPVLLPDNH	YLSTQSALSK	DPNEKRDHMV	LLEFVTAARM	LSDELTKEQT	240
ALLRNAFNAF	DPEKNGYINT	AMVGTILSML	GHQLDDATLA	DIIAEVDEDG	SGQIEFEEFT	300
TLAARFLVEE	DAEAMMAELK	EAFRLYDKEG	NGYITTGVLR	EILRELDDKL	TNDDLDMMIE	360
EIDSDGSGTV	DFDEFMEVMT	GGDDELMVSK	GEELFTGVVP	ILVELDGDVN	GHKFSVSGEG	420
EGDATYGKLT	LKFICTTGKL	PVPWPTLVTT	FGYGLMCFAR	YPDHMRQHDF	FKSAMPEGYV	480

```
QERTIFFKDD GNYKTRAEVK FEGDTLVNRI ELKGIDFKED GNILGHKLEY NYNSHNVYIM      540

ADKQKNGIKA NFKIRHNIED GSVQLADHYQ QNTPIGDGPV LLPDNHYLSY QSALSKDPNE      600

KRDHMVLLEF VTAAGITLGM DELYK                                           625
```

```
<212> Type : PRT
<211> Length : 625
      SequenceName : TN-TPC1 prot
      SequenceDescription :

Sequence
--------
<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac       60

ggcgacgtaa acggccacag gttcagcgtg ccggcgagg gcgagggcga tgccacctac      120

ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc      180

ctcgtgacca ccctgaccctg gggcgtgcag tgcttcagcc gctaccccga ccacatgaag      240

cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc      300

ttcaaggacg acggcaacta caagacccgc gccgaggtga agttcgaggg cgacaccctg      360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac      420

aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac      480

ggcatcaagg cccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc      540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac      600

tacctgagca cccagtccgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc      660

ctgctggagt tcgtgaccgc cgcccgcatg ctgactaagg agcaaactgc attactacgt      720

aatgcattta atgcttttga ccctgaaaaa aatggatata tcaacacagc tatggtgggt      780

acgatactta gcatgttggg tcatcaactt gatgatgcaa ctcttgctga cattatcgct      840

gaagtcgatg aggatggttc gggccaaatc gaatttgaag aatttaccac cctggcagcc      900

cgcttccttg tggaagagga cgctgaagct atgatggctg aattgaagga agctttccgc      960

ctttacgaca agaaggaaa tggatatata actactggtg ttcttcgtga aatcctgcgc     1020

gaactagacg ataaattgac aaatgacgac ctggacatga tgattgagga aattgattcc     1080

gatggatcgg gtactgttga ttttgatgaa tttatggaag taatgaccgg tggcgacgac     1140

gagctcatgg tgagcaaggg cgaggagctg ttcaccgggg tggtgcccat cctggtcgag     1200

ctggacggcg acgtaaacgg ccacaagttc agcgtgtccg gcgagggcga gggcgatgcc     1260

acctacggca gctgaccct gaagttcatc tgcaccaccg gcaagctgcc cgtgccctgg     1320

cccaccctcg tgaccacctt cggctacggc ctgatgtgct cgcccgcta ccccgaccac     1380

atgcgccagc acgacttctt caagtccgcc atgcccgaag ctacgtcca ggagcgcacc     1440

atcttcttca aggacgacgg caactacaag acccgcgccg aggtgaagtt cgagggcgac     1500

accctggtga accgcatcga gctgaagggc atcgacttca aggaggacgg caacatcctg     1560

gggcacaagc tggagtacaa ctacaacagc cacaacgtct atatcatggc cgacaagcag     1620
```

```
aagaacggca tcaaggccaa cttcaagatc cgccacaaca tcgaggacgg cagcgtgcag    1680

ctcgccgacc actaccagca gaacaccccc atcggcgacg gccccgtgct gctgcccgac    1740

aaccactacc tgagctacca gtccgccctg agcaaagacc ccaacgagaa gcgcgatcac    1800

atggtcctgc tggagttcgt gaccgccgcc gggatcactc tcggcatgga cgagctgtac    1860

aagtaa                                                                1866
```

<212> Type : DNA
<211> Length : 1866
       SequenceName : TN-TPC1-L5
       SequenceDescription :

Custom Codon

Sequence Name : TN-TPC1-L5

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

```
MVSKGEELFT GVVPILVELD GDVNGHRFSV SGEGEGDATY GKLTLKFICT TGKLPVPWPT     60

LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL    120

VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA    180

DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHMV LLEFVTAARM LTKEQTALLR    240

NAFNAFDPEK NGYINTAMVG TILSMLGHQL DDATLADIIA EVDEDGSGQI EFEEFTTLAA    300

RFLVEEDAEA MMAELKEAFR LYDKEGNGYI TTGVLREILR ELDDKLTNDD LDMMIEEIDS    360

DGSGTVDFDE FMEVMTGGDD ELMVSKGEEL FTGVVPILVE LDGDVNGHKF SVSGEGEGDA    420

TYGKLTLKFI CTTGKLPVPW PTLVTTFGYG LMCFARYPDH MRQHDFFKSA MPEGYVQERT    480

IFFKDDGNYK TRAEVKFEGD TLVNRIELKG IDFKEDGNIL GHKLEYNYNS HNVYIMADKQ    540

KNGIKANFKI RHNIEDGSVQ LADHYQQNTP IGDGPVLLPD NHYLSYQSAL SKDPNEKRDH    600

MVLLEFVTAA GITLGMDELY K                                              621
```

<212> Type : PRT
<211> Length : 621
       SequenceName : TN-TPC1-L5 prot
       SequenceDescription :

Sequence

<213> OrganismName : Drosophila melanogaster
<400> PreSequenceString :

```
atgagcgatg aattgactaa ggagcaaact gcattactac gtaatgcatt taatgctttt     60

gaccctgaaa aaaatggata tatcaacaca gctatggtgg tacgatact tagcatgttg     120

ggtcatcaac ttgatgatgc aactcttgct gacattatcg ctgaagtcga tgaggatggt    180

tcgggccaaa tcgaatttga agaatttacc accctggcag cccgcttcct tgtggaagag    240

gacgctgaag ctatgatggc tgaattgaag gaagctttcc gcctttacga caaagaagga    300

aatggatata taactactgg tgttcttcgt gaaatcctgc gcgaactaga cgataaattg    360

acaaatgacg acctggacat gatgattgag gaaattgatt ccgatggatc gggtactgtt    420

gattttgatg aatttatgga agtaatgacc ggtggcgacg actaa                    465
```

<212> Type : DNA

<211> Length : 465
     SequenceName : Drosophila TnC isoform1
     SequenceDescription :

Custom Codon

Sequence Name : Drosophila TnC isoform1

Sequence

<213> OrganismName : Drosophila melanogaster
<400> PreSequenceString :

```
MSDELTKEQT ALLRNAFNAF DPEKNGYINT AMVGTILSML GHQLDDATLA DIIAEVDEDG    60

SGQIEFEEFT TLAARFLVEE DAEAMMAELK EAFRLYDKEG NGYITTGVLR EILRELDDKL   120

TNDDLDMMIE EIDSDGSGTV DFDEFMEVMT GGDD                              154
```
<212> Type : PRT
<211> Length : 154
     SequenceName : Drosophila TnC isoform1 prot
     SequenceDescription :

Sequence

<213> OrganismName : Drosophila melanogaster
<400> PreSequenceString :

```
atggacaaca ttgacgaaga cctgaccccc gagcagattg ccgttctgca gaaggcattc    60

aacagcttcg accaccagaa gaccggcagt atccccaccg aaatggtggc cgatatcctc   120

cgtcttatgg gtcagccctt cgacaggcag atccttgacg agctgatgca cgaggtcgat   180

gaggacaaat ccggtcgcct ggagttcgag gagttcgtcc agctggctgc caagttcatc   240

gtagaggagg atgatgaggc catgcagaag gacgtgcgcg aggctttccg tctgtacgac   300

aagcagggca atggctacat tcccacctcc tgcctgaagg agatcctcaa ggaactggac   360

gaccagctga ccgaacagga gctcgacatc atgattgagg aaatcgattc cgacggctct   420

ggcaccgttg attttgatga attcatggag atgatgactg gcgagtaa               468
```
<212> Type : DNA
<211> Length : 468
     SequenceName : Drosophila TnC isoform2
     SequenceDescription :

Custom Codon

Sequence Name : Drosophila TnC isoform2

Sequence

<213> OrganismName : Drosophila melanogaster
<400> PreSequenceString :

```
MDNIDEDLTP EQIAVLQKAF NSFDHQKTGS IPTEMVADIL RLMGQPFDRQ ILDELMHEVD    60

EDKSGRLEFE EFVQLAAKFI VEEDDEAMQK DVREAFRLYD KQGNGYIPTS CLKEILKELD   120

DQLTEQELDI MIEEIDSDGS GTVDFDEFME MMTGE                             155
```
<212> Type : PRT
<211> Length : 155
     SequenceName : Drosophila TnC isoform2 prot
     SequenceDescription :

Sequence

<213> OrganismName : Drosophila melanogaster
<400> PreSequenceString :

```
atgagcagcg tcgatgaaga tcttacaccc gagcagatcg ccgtgctcca gaaggcgttc        60

aacagcttcg atcaccagaa gactggctcc atccccaccg agatggtcgc cgacatcctg       120

cgcctgatgg gtcagccctt cgacaagaag atcctggagg aactgatcga ggaggtcgat       180

gaggacaagt ccggtcgctt ggaattcggc gagttcgtcc agctggctgc caagttcatc       240

gtggaggagg atgcggaggc catgcagaag gagctggccg aggcgttccg tttgtacgat       300

aagcagggca atggcttcat tcccaccacc tgcctgaagg agatcctcaa ggagctggac       360

gaccagctga ccgaacagga gctggacatt atgatcgagg agatcgattc cgatggctcc       420

ggtacagtgg atttcgatga attcatggag atgatgactg gcgagtaa                    468
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<212> Type : DNA
<211> Length : 468
     SequenceName : Drosophila TnC isoform3
     SequenceDescription :

Custom Codon

Sequence Name : Drosophila TnC isoform3

Sequence

<213> OrganismName : Drosophila melanogaster
<400> PreSequenceString :

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EDKSGRLEFG EFVQLAAKFI VEEDAEAMQK ELAEAFRLYD KQGNGFIPTT CLKEILKELD        120

DQLTEQELDI MIEEIDSDGS GTVDFDEFME MMTGE                                   155
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<212> Type : PRT
<211> Length : 155
     SequenceName : Drosophila TnC isoform3 prot
     SequenceDescription :

Sequence

<213> OrganismName : Artificial Sequence
<400> PreSequenceString :

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gagctggtgg cggcggaga gggcaccccc gagcagggcc gcatgaccaa caagatgaag       120

agcaccaagg cgccctgac cttcagcccc tacctgctga gccacgtgat gggctacggc       180

ttctaccact tcggcaccta ccccagcggc tacgagaacc ccttcctgca cgccatcaac       240

aacggcggct acaccaacac ccgcatcgag aagtacgagg acggcggcgt gctgcacgtg       300

agcttcagct accgctacga ggccggccgc gtgatcggcg acttcaaggt ggtgggcacc       360

ggcttccccg aggacagcgt gatcttcacc gacaagatca tccgcagcaa cgccaccgtg       420

gagcacctgc accccatggg cgataacgtg ctggtgggca gcttcgcccg caccttcagc       480

ctgcgcgacg gcggctacta cagcttcgtg gtggacagcc acatgcactt caagagcgcc       540

atccacccca gcatcctgca gaacgggggc cccatgttcg ccttccgccg cgtggaggag       600

ctgcacagca acaccgagct gggcatcgtg gagtaccagc acgccttcaa gaccccgatc       660

gcattcgccc gcatgctcag cgaggagatg attgctgagt caaagctgc ctttgacatg       720

tttgatgcgg acggtggtgg ggacatcagc accaaggagt tgggcacggt gatgaggatg       780
```
```

```
ctgggccaga accccaccaa agaggagctg gatgccatca tcgaggaggt ggacgaggat      840

ggcagcggca ccatcgactt cgaggagttc ctggtgatga tggtgcgcca gatgaaagag      900

gacgccaagg gcaagtctga ggaggagctg gccaactgct tccgcatctt cgacaagaac      960

gctgatgggt tcatcgacat cgaggagctg ggtgagattc tcagggccac tggggagcac     1020

gtcatcgagg aggacataga agacctcatg aaggattcag acaagaacaa tgacggccgc     1080

attgacttcg atgagttcct gaagatgatg gagggtgtgc aggagctcat gtccagcggc     1140

gccctgctgt tccacggcaa gatcccctac gtggtggaga tggagggcaa tgtggatggc     1200

cacaccttca gcatccgcgg caagggctac ggcgatgcca gcgtgggcaa ggtggatgcc     1260

cagttcatct gcaccaccgg cgatgtgccc gtgccctgga gcaccctggt gaccaccctg     1320

acctacggcg cccagtgctt cgccaagtac ggccccgagc tgaaggattt ctacaagagc     1380

tgcatgcccg atggctacgt gcaggagcgc accatcacct tcgagggcga tggcaatttc     1440

aagacccgcg ccgaggtgac cttcgagaat ggcagcgtgt acaatcgcgt gaagctgaat     1500

ggccagggct tcaagaagga tggccacgtg ctgggcaaga atctggagtt caatttcacc     1560

ccccactgcc tgtacatctg gggcgatcag gccaatcacg gcctgaagag cgccttcaag     1620

atctgccacg agatcaccgg cagcaagggc gatttcatcg tggccgatca cacccagatg     1680

aataccccca tcggcggcgg ccccgtgcac gtgcccgagt accaccacat gagctaccac     1740

gtgaagctga gcaaggatgt gaccgatcac cgcgataata tgagcctgaa ggagaccgtg     1800

cgcgccgtgg attgccgcaa gacctacctg tga                                  1833
<212> Type : DNA
<211> Length : 1833
      SequenceName : Cop-L15-Phi
      SequenceDescription :
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Custom Codon

Sequence Name : Cop-L15-Phi

Sequence

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<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
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FYHFGTYPSG YENPFLHAIN NGGYTNTRIE KYEDGGVLHV SFSYRYEAGR VIGDFKVVGT      120

GFPEDSVIFT DKIIRSNATV EHLHPMGDNV LVGSFARTFS LRDGGYYSFV VDSHMHFKSA      180

IHPSILQNGG PMFAFRRVEE LHSNTELGIV EYQHAFKTPI AFARMLSEEM IAEFKAAFDM      240

FDADGGGDIS TKELGTVMRM LGQNPTKEEL DAIIEEVDED GSGTIDFEEF LVMMVRQMKE      300

DAKGKSEEEL ANCFRIFDKN ADGFIDIEEL GEILRATGEH VIEEDIEDLM KDSDKNNDGR      360

IDFDEFLKMM EGVQELMSSG ALLFHGKIPY VVEMEGNVDG HTFSIRGKGY GDASVGKVDA      420

QFICTTGDVP VPWSTLVTTL TYGAQCFAKY GPELKDFYKS CMPDGYVQER TITFEGDGNF      480

KTRAEVTFEN GSVYNRVKLN GQGFKKDGHV LGKNLEFNFT PHCLYIWGDQ ANHGLKSAFK      540

ICHEITGSKG DFIVADHTQM NTPIGGGPVH VPEYHHMSYH VKLSKDVTDH RDNMSLKETV      600
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RAVDCRKTYL
<212> Type : PRT
<211> Length : 610
        SequenceName : Cop-L15-Phi prot
        SequenceDescription :